

WHAT WE CLAIM IS:

1. A method of implementing Realm Specific Internet Protocol in a network access system comprising a plurality of network subdevices connected by a network, the method comprising the steps of:

5 (a) requesting by a first network subdevice using a first protocol, a common external network address and one or more ports from a second network subdevice to identify a first network subdevice during communications with an external computer network;

(b) receiving the common external network address and an identifier of the one or more ports at the first network subdevice from the second network subdevice ;

10 (c) updating entries in an address-to-address table maintained by the second network device to reflect assignment of the common external network address and one or more ports to the first network subdevice; and

15 (d) creating a combination network address for the first network subdevice with the identifier of the one or more ports and the common external network address, the combination network address identifying the first network subdevice for communications with the external computer network..

2. A computer readable medium having stored therein instructions for causing a central processing unit to execute the method of claim 1.

20 3. The method of claim 1 further comprising:

(a) sending a request from the first network subdevice to the second network subdevice;

(b) routing the request from the second network subdevice to the external computer network;

(c) receiving a reply at the second network subdevice on the common external network address for the network access system; and

5 (d) routing the reply from the second network subdevice to the first network subdevice using the locally unique port from the combination network address.

4. The method of claim 1 wherein the first protocol is a Realm Specific Internet Protocol comprising a Realm Specific Internet Protocol assign request message, a Realm
10 Specific Internet Protocol assign response message, and a combination network address involving a locally unique port and a common external network address.

5. The method of claim 1 wherein the common external network address is an Internet protocol address.

15 6. The method of claim 1 wherein the first network subdevice is a communications card.

7. The method of claim 6 wherein the communications card comprises a Realm
20 Specific Internet Protocol host and an Internet protocol interface.

8. The method of claim 7 wherein the communications card further comprises a data application and a device control application.

9. The method of claim 1 wherein the second network subdevice is a router or a port server.

5 10. The method of claim 1 wherein the second network subdevice comprises a Realm Specific Internet Protocol gateway and a plurality of Internet protocol interfaces.

11. The method of claim 1 wherein the external computer network is any of the Internet, an intranet or a public-switched telephone network.

10 12. The method of claim 1 wherein the common external network address is an Internet protocol address.

13. The method of claim 1 wherein the plurality of subdevices on the network access system comprise a local area network and the external network is any of the Internet or an intranet.

14. A network access device, comprising in combination:

(a) a first network;

20 (b) a first network subdevice comprising a network client on the first network , wherein the first network subdevice has a first network address for communicating with other network subdevices and requests from a second network subdevice allocation of a second

network address and one or more ports for communicating with a plurality of network devices on a second network; and

(c) a second network subdevice on the first network comprising a network address server for allocating a second network address and one or more ports to the first network subdevice, wherein the second network subdevice has a first network address for communicating with other network subdevices on the first network and a second network address for communicating with a plurality of network devices on a second network, and wherein the network address server is used to allocate the second network address to the first network subdevice on the first network.

15. The network access device of claim 14 wherein the first network is a private Internet Protocol network.

16. The network access device of claim 14 wherein the second network is a public network.

17. The network access device of claim 14 wherein the first network address of the first network subdevice is a private network address

18. The network access device of claim 14 wherein the first network address of the second network subdevice is a private network address and the second network address of the second network subdevice is a public network address.

19. The network access device of claim 14 wherein the first network subdevice further comprises an IP interface and the client of the first network subdevice is a Realm Specific Internet Protocol host.

5 20. The network access device of claim 14 wherein the second network subdevice further comprises an IP interface and the network address server of the second network subdevice is a Realm Specific Internet Protocol gateway.

10 21. The network access device of claim 14 wherein the first network subdevice is a communications card.

22. The network access device of claim 21 wherein the communications card is a modem card.

15 23. The network access device of claim 14 wherein the first network subdevice further comprises a data application and a device control application.

24. The network access device of claim 17 wherein the private network address of the second network subdevice is an Internet protocol address.

20 25. The network access device of claim 14 wherein the second network subdevice is a router subsystem.

26. The network access device of claim 17 wherein the public network address of the second network subdevice is an Internet protocol address.

27. The network access device of claim 16 wherein the second network is any of the Internet or an intranet.

28. The network access device of claim 23 wherein the network access device is an Internet telephony gateway system.

29. The network access device of claim 28 wherein the data application provides media translation functionality and the device control application provides for remote control of the first network subdevice by a network device on the second network.

30. The network access device of claim 28 wherein the first network subdevice is a MEGACO-compliant media gateway.

31. The network access device of claim 28 wherein the second network comprises an external Internet Protocol signaling network having an Internet Protocol control device and an external Internet Protocol data network having an Internet Protocol media device.

32. The network access device of claim 31 wherein the Internet Protocol control device on the external Internet Protocol signaling network is a MEGACO-compliant media gateway controller.

33. The network access device of claim 14 wherein the first private network subdevice and the second private network subdevice are cards in a rack having a common backplane.